the modern architectural terra cotta

ceramic veneer

SPECIFICATIONS
COLOR
FINISH
TEXTURE
ORNAMENTATION
SIZES AND SHAPES
INSTALLATION

CATALOG 57-S

architectural terra cotta institute
affiliated with
STRUCTURAL CLAY PRODUCTS INSTITUTE
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ONLY CERAMIC VENEER

color

The importance of the rôle of color in architecture today is increasingly evident. In the creation of a specific architectural design, the architect realizes the use of color goes far toward establishing the proper atmosphere for the ultimate composition. The wide color range and impervious glazes assure the architect of a permanence of color for both interiors and exteriors which is unequalled by any other facing material.

single color One solid color in a wide range of shades. Single colors are available in subdued, conservative hues used for large exterior and interior areas, also in dominant hues suitable for trim or ornamental panels.

mottle color Two or more colors blended in the application of the ceramic finish. Mottle colors are extremely popular for facing exterior and interior walls, and can be produced to blend with other facing materials.

polychrome Two or more colors applied separately to a specified area. Hues available in polychrome are practically unlimited, including "two-fire" glazes such as gold, silver, orange and vermilion at additional cost. (See section 2(d) of specifications.)

finish

gloss Gloss finish provides a reflective surface suitable where lustrous glaze is desirable.

satin finish This finish provides a surface of medium reflectivity. It is recommended for exteriors or interiors, particularly rooms in which important seeing tasks are performed.

vitreous slip or unglazed finish This finish provides a surface of low reflectivity suitable for exteriors, particularly for use in combination with other masonry materials having a similar finish.

texture

Texture is the appearance produced by the surface of the unit apart from its color and finish. Textures, ranging from smooth to coarse, are defined below. The surface textural range is wide and varied to meet the exacting demands of the architectural treatment specified. Textures vary with different manufacturers. Contact manufacturers in vicinity to determine textures available.

smooth The surface of the unit as created by the die or mold.

roughened Obtained during the manufacturing process, this texture, either fine or coarse, results when the surface of the unit is broken by mechanical means, such as wire cutting or wire brushing.

tooled This texture with parallel ridges, either fine or coarse, is produced during manufacture by scoring the surface of the unit.

economy

maintenance Ceramic veneer guarantees the absolute minimum of expenditures for maintenance during the entire life of the structure. The hard, impermeable glazes act as an enduring seal against grime, smoke, acids and other impurities, assuring the removal of any surface film by a simple soap and water washing.

permanence Ceramic veneer, either adhesion or anchor type, becomes an integral part of the structure. Its impervious finish will permanently resist weathering and will always retain its original colors under the severest climatic conditions.

OFFERS ALL THESE...

pattern

The architectural possibilities of ceramic veneer—color, form and texture—are infinite, bounded only by the imagination of the architect. Ornamental ceramic veneer being made from molds, offers the most inexpensive execution for repetitive designs.

Striking "Polynesian print" shows range of glaze patterns available through "silk screen" glazing technique.

Woolworth Building, Honolulu, Hawaii. Woolworth Co., San Francisco, Designers

form

The form of modern architectural terra cotta varies with design demands. To meet the varied requirements of modern design, ceramic veneer manufacturers can produce flat, reeded, fluted and beveled units, as well as copings, lintels, sills and jambs, in a wide range of colors and shapes.

ornamentation

Terra cotta offers the designer a wide choice in the execution of decorative treatments. Delicate sculpture as shown from Our Lady of Good Counsel Church, Aurora, Ill., or bas-reliefs in either monochrome or polychrome, are easily furnished by today's terra cotta manufacturers through modern manufacturing techniques.

Hertel, Johnson, Eippen, Stopa & Culver, Archs

installations

The East Bay Telephone Company, Oakland, Calif. (right), shows an installation utilizing a complete exterior facing of adhesion type ceramic veneer. The Broadway School, Newark, N. J. (below), illustrates the aesthetic appeal gained through the use of colorful ceramic veneer facing on spandrels.

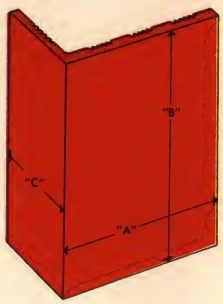
Kruger & Fava, Archs.

Thomsen & Wilson, Archs.

adhesion type ceramic veneer

MAXIMUM FINISHED SIZES

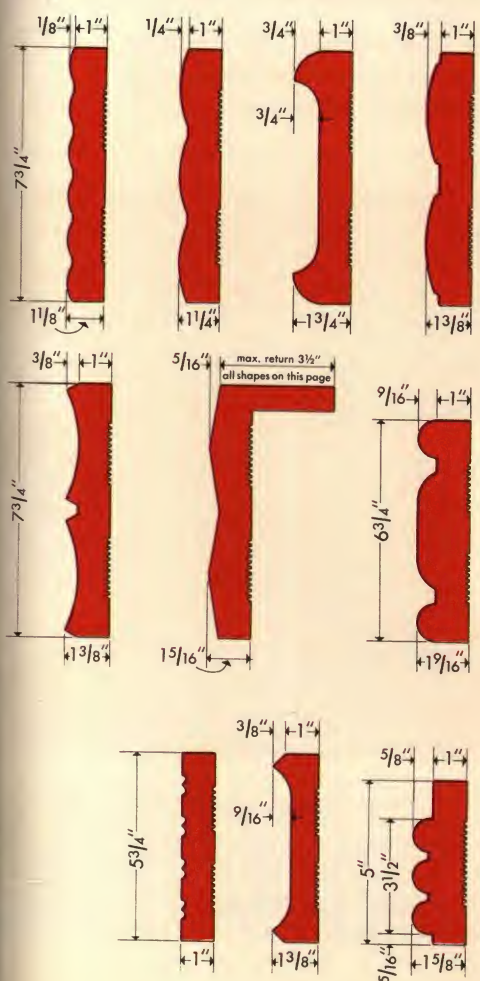
A	B	C
5¾"	2' 0"	3½"
7¾"	2' 0"	3½"
11¾"	2' 0"	3½"
1' 2¾"	2' 2"	3½"
1' 3¾"	2' 2"	3½"
1' 5¾"	2' 2"	3½"

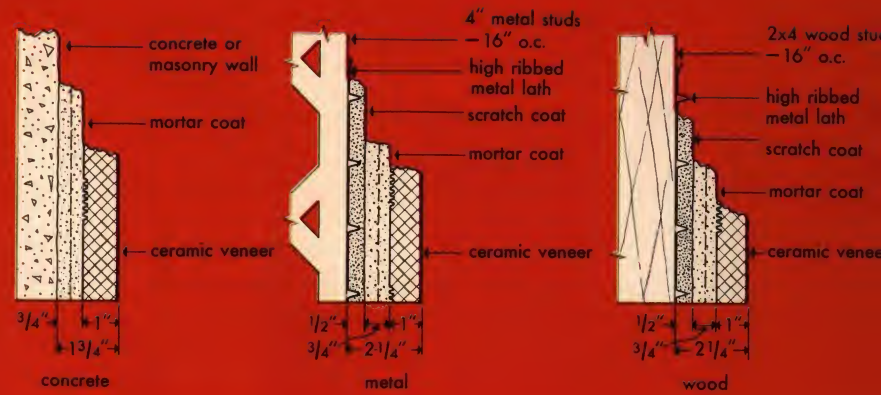


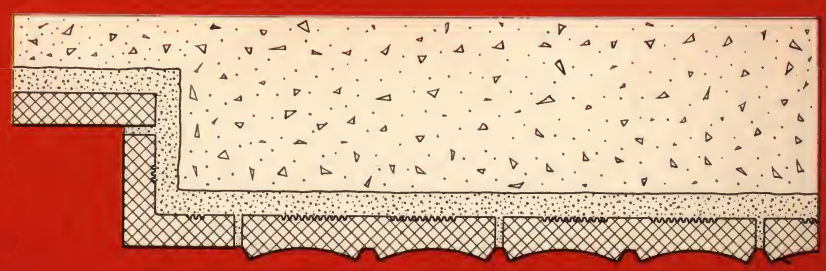
NOTE:

All sizes indicated are actual finished sizes of material. Add ¼" for joints. To achieve greatest economy, use or adhere as closely as possible to the standard sizes shown. Plain ashlar, without return, is available in the same face sizes as indicated under Columns A and B. It is recommended that a ½" bevel or bullnose be used on corners subject to public contact.

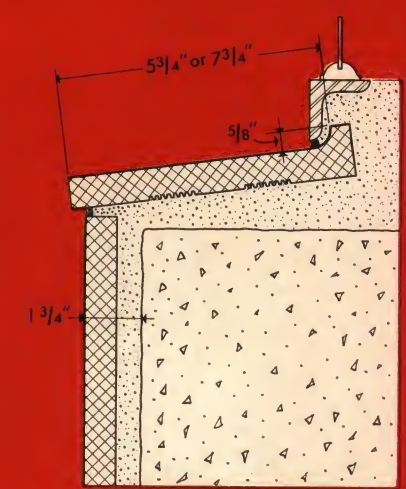
TYPICAL SHAPES

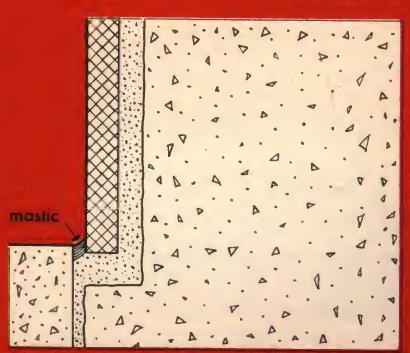




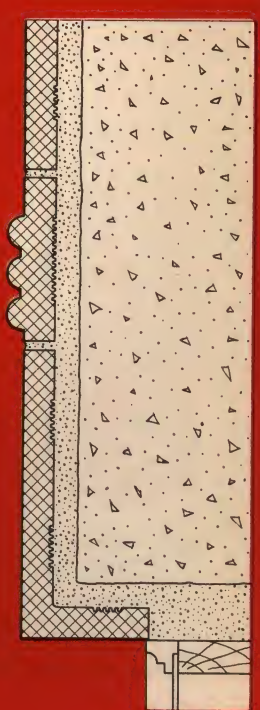


pier trim section





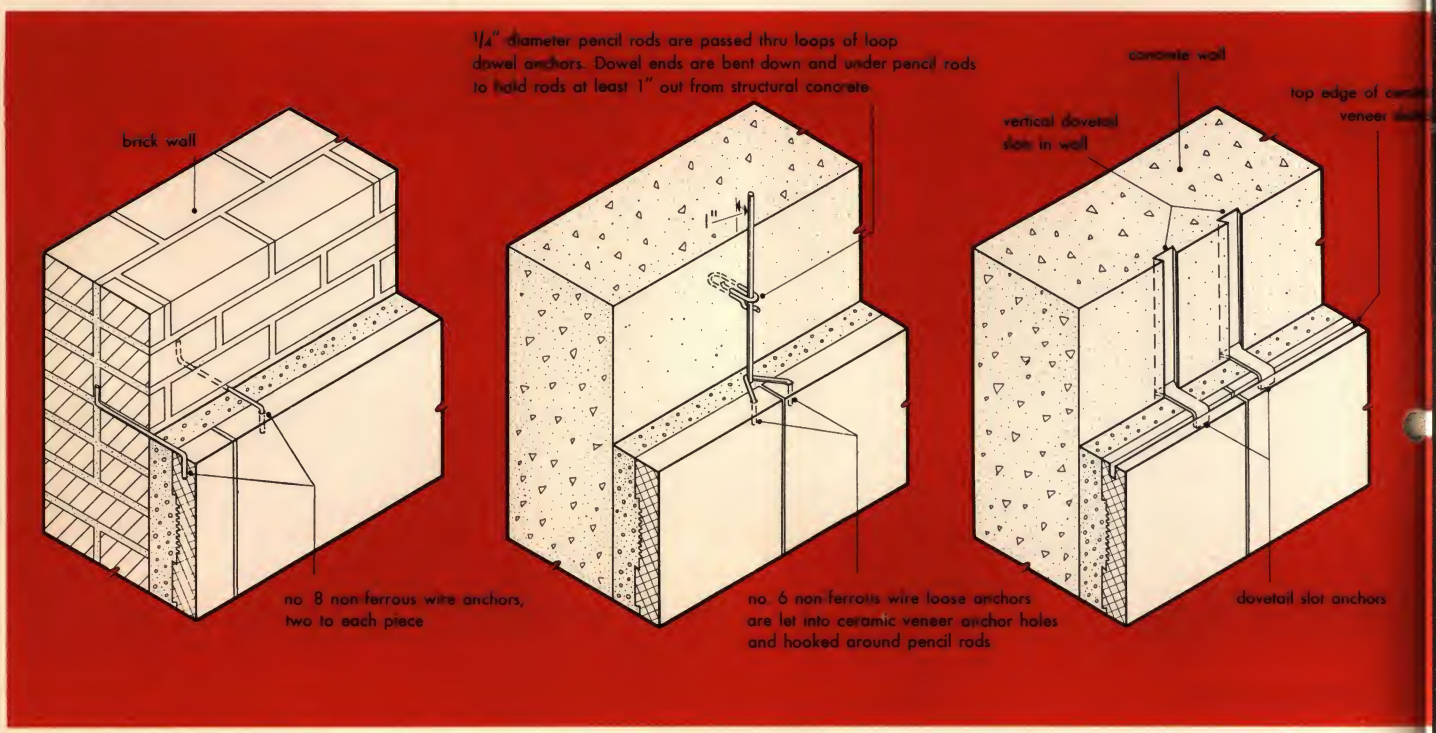
sill detail



lintel section

anchor type ceramic veneer

NOTE: Contact manufacturers in vicinity to determine unit sizes and thicknesses available.



Pencil rods, threaded through loop dowel anchors or eye bolts and held at least 1″ away from the wall, provide an effective means of anchoring ceramic veneer to walls that have been built prior to the application of the facing. When ceramic veneer is applied as the backing wall is built, wire anchors may be embedded in the masonry.

Anchor type ceramic veneer units and backing wall should be wetted with clean water in accordance with manufacturers' instructions just prior to setting. When ceramic veneer is applied to reinforced concrete walls, 1″ x 6″ horizontal grooves are formed in the concrete wall to provide greater shear resistance. The ceramic veneer slabs are set in place and secured to the pencil rods with wire anchors inserted in the top of each piece. Note the use of temporary wooden wedges to hold each piece in place at the required distance from the wall. When one complete horizontal row of ceramic veneer slabs is in place and anchored, the grout is then poured into the space between the veneer and the backing. As it is poured, it should be thoroughly "puddled" to be certain that no air pockets or voids remain. As soon as the grout has set sufficiently to hold the slabs in place, the temporary wooden wedges can be removed. If wires are used temporarily in vertical joints to hold the unit in place during grouting, they should be non-corrosive material. The final steps are tooling or pointing the joints and washing.

standard specifications for furnishing and erecting ceramic veneer

1. SETTING DRAWINGS

(a) The terra cotta manufacturer shall provide two copies of scale shop drawings developed from the architect's drawings and approved by the architect. These shop drawings are to be used for setting and shall indicate all dimensions and sizes of joints, as well as all anchors, hangers, expansion and pressure-relieving joints, etc., which are furnished by others.

2. TERRA COTTA UNITS

(a) quality Terra cotta shall conform to the requirements of the Specifications for Architectural Terra Cotta and Ceramic Veneer of the Architectural Terra Cotta Institute for quality of finish and physical properties of the units.

(b) dimensions Adhesion type thin ceramic veneer which is attached to the backing by the bond between mortar and masonry without the use of metal ties shall be not over 1¼" thick.

Anchored type ceramic veneer, attached to the backing by non-ferrous metal anchors, shall have a net thickness of not less than 1¼", exclusive of the thickness of the dovetailed ribs.

All ashlar shall be sized by grinding or cutting and face lengths and widths shall not vary more than 1/16" over or under the dimensions called for on the setting drawings.

(c) surface The exposed face of all ashlar shall not vary from a true plane by more than the amount shown in Table 1.

TABLE 1
Permissible Distortion

Face Area sq. ft.	Maximum Permissible Distortion in Inches
1 and under	1/16
Over 1 to 2	1/8
Over 2	3/16

(d) texture and color The texture, ceramic finish and color of all exposed surfaces of terra cotta shall be as approved by the architect and are subject to normal ceramic variations. If polychrome or two-fired colors, such as gold, silver, orange and vermilion, are required, the extent of their use shall be indicated on the architect's drawings or in the specifications.

> *Note:* Glazes which mature at lower temperatures than the clay body must be applied to the burned body. This double firing, as well as the high cost of the raw materials required for many low-fired glazes, results in a substantial increase in the cost of these colors as compared to single-fired glazes.

(e) delivery Terra cotta shall be shipped to point of delivery stated in the contract, properly packed, and in sound condition. The setting contractor shall receive all terra cotta at street curb and be responsible thereafter for its good condition. Terra cotta shall be stored under cover not in contact with the ground and shall be stacked on wood lath or strips so as to protect it from injury.

3. MORTAR

(a) Mortar shall be proportioned by volume for the type specified within the following limits:

(1) for anchored type:

Setting and Pointing Mortar: 1 part portland cement, ½ part high calcium lime putty and 4½ parts sand.

Mortar Grout: Setting mortar to which sufficient additional water is added to cause the mixture to flow readily.

Pea Gravel Grout: 1 part portland cement, 1 part sand and 5 parts graded pea gravel passing a ⅜" sieve.

(2) for adhesion type:

Setting Mortar: 1 part portland cement, ½ part high calcium lime putty and 4 parts sand to which may be added ammonium stearate or equal in the proportions recommended by the manufacturer.

(3) for hand-made cellular terra cotta:

Grout Filler: 1 part portland cement, 7 parts sand and top gravel well graded.

> *Note:* Hydrated or dolmitic lime may be used when approved by the architect, provided it can be shown by test to be equivalent to high calcium lime putty in plasticity and absence of expansion due to delayed hydration.

4. ERECTION

(a) supports and anchors Expansion and pressure-relieving joints shall be erected and non-ferrous metal anchors shall be installed where shown on approved terra cotta setting drawings. Metal supporting or securing the terra cotta shall be thoroughly embedded in the masonry and shall be protected from corrosion by incasing in mortar or grout. In the case of concrete construction, loop dowel anchors or other anchors approved by the architect shall be used, together with horizontal grooves 6" wide cast in the concrete.

(b) wetting At the beginning of setting each day, all walls to be faced shall be drenched with clean water and shall be drenched again with water approximately 1 hour before setting of ceramic veneer. All terra cotta and ceramic veneer shall be wetted in accordance with manufacturer's recommendations with clean water just prior to installation and shall be noticeably damp at the time of laying.

(c) setting

(1) anchored type ceramic veneer: Terra cotta shall be set true to line in anchored type setting mortar and shall be anchored in accordance with approved setting drawings. All spaces between anchored type terra cotta and backing wall 2" or more in width shall be filled solidly with pea gravel grout. Spaces less than 2" in width shall be filled solidly with mortar grout. Voids in open back hand-molded terra cotta shall be filled solidly with brick masonry or grout filler for hand-made cellular terra cotta.

(2) adhesion type ceramic veneer: Just prior to application of mortar, a limited area of the wall and entire back of the piece of ceramic veneer about to be set shall be given a brush coat of neat portland cement and water. Brush coats shall be of such consistency that they will spread evenly. Immediately thereafter, spread one-half of the mortar coat on a limited area of the wall and the other half on the entire back of the piece of ceramic veneer and tap it in place on the wall so as to completely fill all voids. The total thickness of the mortar coat shall average ¾", but sufficient mortar shall be used to create a slight excess which will be forced out at the joints and the edge of the piece when it is tapped into place.

When applied to soffits, each piece of ceramic veneer, in addition to the usual centers and wooden wedges, shall be supported by suitable bent vertical wooden shores exerting a constant upward pressure until the mortar coat has set for several days.

(d) tooling and pointing When pointing is specified, all mortar joints shall be raked to a depth of ½". Before pointing, joints shall be saturated with clean water, after which they shall be filled solidly with pointing mortar and tooled. If pointing is not specified, all mortar joints shall be tooled as the setting progresses to form a concave joint. All surplus mortar and stains shall be removed as the setting progresses and the surface shall be left clean.

(e) cleaning Upon completion of the setting, all surfaces shall be cleaned with soap or washing powder and rinsed thoroughly with clean water. Abrasives or metal tools shall not be used.

remodeling

BEFORE remodeling, the H. S. Kress & Co. Building, San Francisco, Calif., presented this dingy out-moded facade to the buying public.

AFTER the same building was remodeled with adhesion type ceramic veneer, customers are attracted to the store through an impression of quality and progress.

Albert F. Roller, Arch.

Cover photo:
South Attleboro (Mass.)
Public School
Architects Collaborative, Archs.

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DENVER TERRA COTTA CO.
135 Tejon St., Denver, Colo., RAce 2-4643

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O. W. KETCHAM
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NORTHWESTERN TERRA COTTA CORP.
1750 Wrightwood Ave., Chicago, Ill., LIncoln 9-7400

In the interest of more effective utilization of architectural terra cotta and ceramic veneer and better construction, the companies listed have contributed to the preparation of this publication.

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